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ABSTRACT

These Connecticut vocational and technical performance standards and competencies are a guide for overall quality attainment in these seven vocational and technical program areas: agricultural science technology education; business and finance technology education; cooperative work education; family and consumer sciences education; marketing education; medical careers education; and technology education. For these program areas, 17 subject area standards and competencies have been determined. This document is intended to assist local districts in raising expectations, upgrading and improving vocational and technical curriculum and instruction, promoting growth in student achievement, and preparing students effectively for the vocational and technical education statewide assessments. Each program area consists of 1-7 subject areas of concentration or content areas. A content measure is provided for each content area. Each content area consists of performance standards with related competencies for each standard. (YLB)

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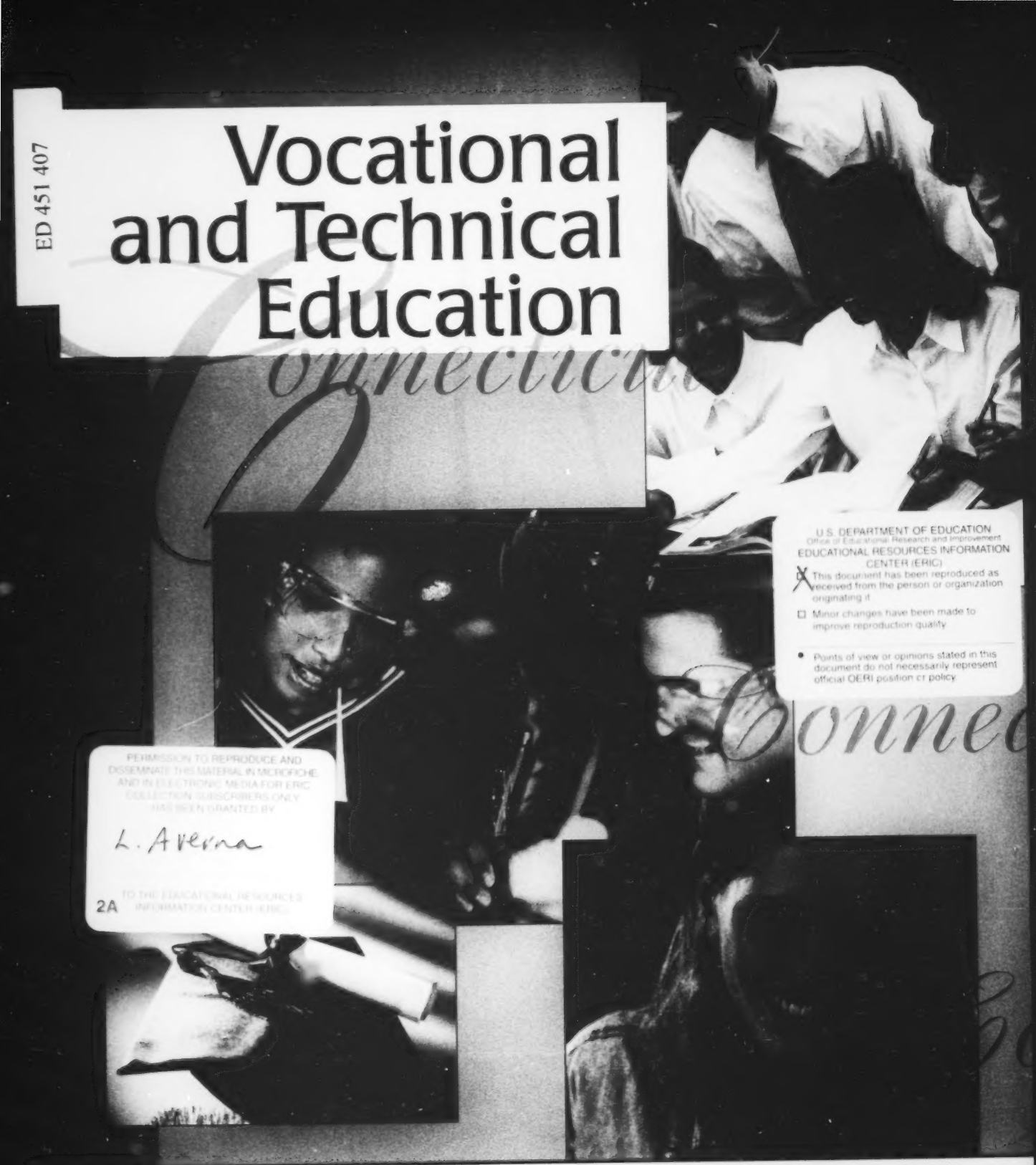
Vocational and Technical Education



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Performance Standards and Competencies

State of Connecticut
State Board of Education 2001

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Vocational and Technical Education

Performance Standards and Competencies

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Introduction

Vocational and Technical Education: A Definition

The Perkins Act of 1998 defines Vocational and Technical Education as —

> Organized educational activities that:
>
> (A) offer a sequence of courses that provides individuals with the academic and technical knowledge and skills the individuals need to prepare for further education and for careers in current and emerging employment sectors; and
>
> (B) include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, of an individual.

In Connecticut, the vocational and technical program areas are:

- Agricultural Science Technology Education
- Business and Finance Technology Education
- Cooperative Work Education
- Family and Consumer Sciences Education
- Marketing Education
- Medical Careers Education
- Technology Education

What are the Vocational and Technical Performance Standards and Competencies?

The vocational and technical performance standards and competencies are a guide for overall quality attainment in the eight previously mentioned vocational and technical program areas. For these eight program areas, seventeen subject area standards and competencies have been determined. The purpose of this document is to assist local districts in raising expectations, upgrading and improving vocational and technical curriculum and instruction, promoting growth in student achievement, and preparing students effectively for the vocational and technical education statewide assessments. In the State Department of Education's plan for the implementation of statewide vocational and technical education testing that will commence in the Spring of 2001, local high schools will determine those students who have met the threshold of being classified as "concentrator" students. Such classification will require students to participate in this assessment process. A concentrator is:

> "A student who takes at least two credits of a vocational and technical education sequence in a given instructional program. This sequence should provide students with entry level job related skills, or the ability to continue in higher education."

The Connecticut *Vocational and Technical Education Performance Standards and Competencies* are intended to provide guidance to schools and districts that are developing curriculum and should not be seen as a state mandate. Local districts are ultimately responsible for developing curriculums that define what students learn and what teachers teach in specific courses of study. These standards and competencies provide one basis for district conversations about what is important for student to know and be able to do.

Each program area standards and competencies were developed by an advisory committee composed of educators from local school districts within the State of Connecticut. These committees reviewed national curriculum, standards and curriculums from other states, and local district curriculums to insure that the best practices in each field were represented.

This is the initial step in establishing the Connecticut *Vocational and Technical Education Performance Standards and Competencies*. In the future, some program areas may add new content areas and additional assessments.

Vocational and Technical Education Program Areas and Subject Areas of Concentration

Agricultural Science Technology Education

- Aquaculture and Marine Related Technology
- Animal Science Technology
- Agriculture Mechanics Technology
- Plant Science Technology
- Natural Resources and Environmental Technology

Business and Finance Technology Education

- Communications/Technology
- Business Administration, Finance and Management
- Accounting
- Career Development

Cooperative Work Education

- Cooperative Work Education

Family and Consumer Sciences Education

- Early Childhood Education and Services
- Nutrition, Food Production and Services

Marketing Education

- Marketing Education

Medical Careers Education

- Medical Careers Education
- Certified Nursing Assistant

Technology Education

- Communication Systems
- Computer-Assisted Design and Drafting
- Graphics Communications
- Construction Systems
- Manufacturing Systems
- Transportation Systems
- Automotive Technology

Agricultural Science Technology Education

Agricultural Science Technology Education

CONTENT AREA – Aquaculture and Marine Related Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand the concepts and skills necessary related to aquaculture and marine-related technologies.

1. Identify engine operation, components and principles.
2. Understand principles of boating safety.
3. Demonstrate knowledge of boat construction and design.
4. Identify morphological features of finfish and shellfish.
5. Understand the life cycle of aquatic animals.
6. Identify the operating components and principles in filtration and aeration.
7. Understand the principles and operation of finfish production methods.
8. Explain the basics of hydroponic systems.
9. Identify limiting water quality factors for aquaculture production.
10. Identify nutrients, nutritional strategies and finfish diseases.

B. Understand the diversity of careers related to the agricultural industry and strategies needed to explore them.

1. Assess personal interests, values, abilities, and work experience.
2. Identify personal and skill characteristics related to specific occupational job families or careers.
3. Identify career-related postsecondary choices and requirements.
4. Evaluate current and future employment opportunities.
5. Analyze needs of business and industry based on labor and economic trends.

C. Understand the use and application of information-based technologies such as computers, communication tools and specialized software necessary for career success in agriculture.

1. Apply computers to job tasks.
2. Use of specialized software.
3. Knowledge of PC operation.
4. Use e-mail software.
5. Use web browser.
6. Use proper telephone skills.
7. Understand copyright laws.
8. Understand confidentiality.

Agricultural Science Technology Education

CONTENT AREA – Aquaculture and Marine Related Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

D. Understand the concepts, strategies and tools necessary for employment acquisition, retention and advancement.

1. Identify sources of employment opportunities and advancement.
2. List desirable employee traits.
3. Research wage information.
4. Identify types of benefits offered.
5. Recognize decision-making skills.
6. Write or update resume.
7. Write letter of application.
8. Complete job application.
9. Interview for job.
10. Evaluate a job offer/job description.
11. Explain the nature of interpersonal relations in the job.

E. Understand the concepts, processes, consequences of using and applying pesticides, chemicals and handling other contaminants and equipment in agricultural settings.

1. Interpret pesticide labels, manuals and Material Safety Data Sheets.
2. Measure and mix chemicals and pesticides and understand proper safety applications.
3. Use safety precautions while handling equipment, materials, disposal and cleaning.
4. Understand Integrated Pest Management.
5. Use of proper safety equipment.
6. Understand environmental protection laws and policy.

F. Understand the concepts, processes and tools needed in reading and interpreting topographical maps, charts, graphs and blueprints.

1. Use of scales in drawings, prints and maps.
2. Identify and interpret blueprints, lines and symbols.
3. Knowledge of pictorial, schematic drawings and topographical maps.
4. Identify tools/materials, equipment for use with topographical maps, charts, graphs and blueprints.
5. Convert scale.

Agricultural Science Technology Education

CONTENT AREA – Aquaculture and Marine Related Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

G. Understand the sequence of the channels of distribution (marketing) in its role to agriculture.

1. Understand supply and demand.
2. Define the concept of market price.
3. Define the concept of profit.
4. Define the concept of competition.
5. Explain the value of advertising/promotion.
6. Arrange display to produce harmony, balance, and proportion.
7. List the forms of advertising media and the advantages and disadvantages of each.
8. Explain the nature of positive customer/client relations.
9. Handle customer inquiries/complaints.
10. Understand financial statements.

H. Understand the concepts, strategies and tools needed which contribute to personal growth, community leadership, democratic principles and social responsibility through the participation in the FFA.

1. Practice correct conduct at meetings.
2. Use parliamentary procedure.
3. Use of proper speaking and communication skills.
4. Describe the qualities and abilities of an effective leader.
5. Identify and apply the various roles and responsibilities of a leader with an organization.
6. Introducing and addressing people properly.
7. Use proper grammar and appropriate vocabulary.

I. Understand and use mathematical calculations as they apply to agricultural situations.

1. Perform calculations involving fractions, decimals, and percents.
2. Knowledge of geometric shapes (area, perimeter, circumference, volume, etc.).
3. Calculate amount of purchase, tax, discounts and special charges for purchases.
4. Take and record measurements.

Agricultural Science Technology Education

CONTENT AREA – Animal Science Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand the concepts and skills necessary related to animal science technology.

1. Differentiate between different breeds and types of animals.
2. Maintain animal health.
3. Practice sanitation.
4. Diagnose diseases and ailments.
5. Explain breeding of livestock.
6. Feed Livestock.
7. Understand production cycles.
8. Calculate costs and analyses of feed.
9. Describe handling and shipment of livestock.

B. Understand the diversity of careers related to the agricultural industry and strategies needed to explore them.

1. Assess personal interests, values, abilities, and work experience.
2. Identify personal and skill characteristics related to specific occupational job families or careers.
3. Identify career-related postsecondary choices and requirements.
4. Evaluate current and future employment opportunities.
5. Analyze needs of business and industry based on labor and economic trends.

C. Understand the use and application of information-based technologies such as computers, communication tools and specialized software necessary for career success in agriculture.

1. Apply computers to job tasks.
2. Use of specialized software.
3. Knowledge of PC operation.
4. Use e-mail software.
5. Use web browser.
6. Use proper telephone skills.
7. Understand copyright laws.
8. Understand confidentiality.

Agricultural Science Technology Education

CONTENT AREA – Animal Science Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

D. Understand the concepts, strategies and tools necessary for employment acquisition, retention and advancement.

1. Identify sources of employment opportunities and advancement.
2. List desirable employee traits.
3. Research wage information.
4. Identify types of benefits offered.
5. Recognize decision-making skills.
6. Write or update resume.
7. Write letter of application.
8. Complete job application.
9. Interview for job.
10. Evaluate a job offer/job description.
11. Explain the nature of interpersonal relations in the job.

E. Understand the concepts, processes, consequences of using and applying pesticides, chemicals, and handling other contaminants and equipment in agricultural settings.

1. Interpret pesticide labels, manuals and Material Safety Data Sheets.
2. Measure, mix chemicals and pesticides, and understand safety applications.
3. Use safety precautions while handling equipment, materials, disposal and cleaning.
4. Understand Integrated Pest Management.
5. Use of proper safety equipment.
6. Understand environmental protection laws and policy.

F. Understand the concepts, processes and tools needed in reading and interpreting topographical maps, charts, graphs and blueprints.

1. Use of scales in drawings, prints and maps.
2. Identify and interpret blueprints, lines and symbols.
3. Knowledge of pictorial, schematic drawings and topographical maps.
4. Identify tools/materials, equipment for use with topographical maps, charts, graphs and blueprints.
5. Convert scale.

Agricultural Science Technology Education

CONTENT AREA – Animal Science Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

G. Understand the sequence of the channels of distribution (marketing) in its role to agriculture.

1. Understand supply and demand.
2. Define the concept of market price.
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4. Define the concept of competition.
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8. Explain the nature of positive customer/client relations.
9. Handle customer inquiries/complaints.
10. Understand financial statements.

H. Understand the concepts, strategies and tools needed which contribute to personal growth, community leadership, democratic principles and social responsibility through the participation in the FFA.

1. Practice correct conduct at meeting.
2. Use parliamentary procedure.
3. Use of proper speaking and communication skills.
4. Describe the qualities and abilities of an effective leader.
5. Identify and apply the various roles and responsibilities of a leader with an organization.
6. Introducing and addressing people properly.
7. Use proper grammar and appropriate vocabulary.

I. Understand and use mathematical calculations as they apply to agricultural situations.

1. Perform calculations involving fractions, decimals, and percents.
2. Knowledge of calculations of geometric shapes (area, perimeter, circumference, volume, etc.).
3. Calculate amount of purchase, tax, discounts and special charges for purchases.
4. Take and record measurements.

Agricultural Science Technology Education

CONTENT AREA – Agricultural Mechanics Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand the concepts and skills necessary related to agricultural mechanics technology.

1. Maintain an equipment shop.
2. Perform carpentry skills.
3. Discuss painting techniques.
4. Explain welding (arc and oxyacetylene) techniques.
5. Explain building and repair of concrete and masonry structures.
6. Operate and maintain engines.
7. Use operator's manuals.
8. Tune and repair engines.
9. Operate and maintain trucks and tractors.
10. Repair and fit tools and equipment.
11. Discuss maintenance of equipment.
12. Operate and maintain machinery.
13. Repair power systems.
14. Understand rural electric motors.
15. Know how to construct and maintain farm and/or equipment buildings.
16. Practice safety.
17. Profile leveling.

B. Understand the diversity of careers related to the agricultural industry and strategies needed to explore them.

1. Assess personal interests, values, abilities, and work experience.
2. Identify personal and skill characteristics related to specific occupational job families or careers.
3. Identify career-related postsecondary choices and requirements.
4. Evaluate current and future employment opportunities.
5. Analyze needs of business and industry based on labor and economic trends.

Agricultural Science Technology Education

CONTENT AREA – Agricultural Mechanics Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Understand the use and application of information-based technologies such as computers, communication tools and specialized software necessary for career success in agriculture.

1. Apply computers to job tasks.
2. Use of specialized software.
3. Knowledge of PC operation.
4. Use e-mail software.
5. Use web browser.
6. Use proper telephone skills.
7. Understand copyright laws.
8. Understand confidentiality.

D. Understand the concepts, strategies and tools necessary for employment acquisition, retention and advancement.

1. Identify sources of employment opportunities and advancement.
2. List desirable employee traits.
3. Research wage information.
4. Identify types of benefits offered.
5. Recognize decision-making skills.
6. Write or update resume.
7. Write letter of application.
8. Complete job application.
9. Interview for job.
10. Evaluate a job offer/job description.
11. Explain the nature of interpersonal relations in the job.

Agricultural Science Technology Education

CONTENT AREA – Agricultural Mechanics Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

E. Understand the concepts, processes, consequences of using and applying pesticides, chemicals and handling other contaminants and equipment in agricultural settings.

1. Interpret pesticide labels, manuals and Material Safety Data Sheets.
2. Measure, mix chemicals and pesticides and understand safety applications.
3. Use safety precautions while handling equipment, materials, disposal and cleaning.
4. Understand Integrated Pest Management.
5. Use of proper safety equipment.
6. Use of pest control manual.
7. Understand environmental protection laws and policy.

F. Understand the concepts, processes and tools needed in reading and interpreting topographical maps, charts, graphs and blueprints.

1. Use of scales in drawings, prints and maps.
2. Identify and interpret blueprints, lines and symbols.
3. Knowledge of pictorial, schematic drawings and topographical maps.
4. Identify tools/materials, equipment for use with topographical maps, charts, graphs and blueprints.
5. Convert scale.

G. Understand the sequence of the channels of distribution (marketing) in it's role to agriculture.

1. Understand supply and demand.
2. Define the concept of market price.
3. Define the concept of profit.
4. Define the concept of competition.
5. Explain the value of advertising/promotion.
6. Arrange display to produce harmony, balance, and proportion.
7. List the forms of advertising media and the advantages and disadvantages of each.
8. Explain the nature of positive customer/client relations.
9. Handle customer inquiries/complaints.
10. Understand financial statements.

Agricultural Science Technology Education

CONTENT AREA – Agricultural Mechanics Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

H. Understand the concepts, strategies and tools needed which contribute to personal growth, community leadership, democratic principles and social responsibility through the participation in the FFA.

1. Practice correct conduct at meetings.
2. Use parliamentary procedure.
3. Use of proper speaking and communication skills.
4. Describe the qualities and abilities of an effective leader.
5. Identify and apply the various roles and responsibilities of a leader with an organization.
6. Introduce and address people properly.
7. Use proper grammar and appropriate vocabulary.

I. Understand and use mathematical calculations as they apply to agricultural situations.

1. Perform calculations involving fractions, decimals, and percents.
2. Knowledge of calculations of geometric shapes (area, perimeter, circumference, volume etc.).
3. Calculate amount of purchase, tax, discounts and special charges for purchases.
4. Take and record measurements.

Agricultural Science Technology Education

CONTENT AREA – Plant Science Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand the concepts and skills necessary related to plant science technology.

1. Analyze soils and prepare soils.
2. Choose type of fertilizer for desired outcome.
3. Identify characteristics of trees, flowers, and grass.
4. Maintain plants (pruning, fertilizing, watering, repotting).
5. Describe plant lifecycles.
6. Transplant plants.
7. Explain respiration.
8. Explain photosynthesis.
9. Apply safety precautions while handling equipment.
10. Identify engine types (2-cycle, 4-cycle, etc.).
11. Label plants.
12. Demonstration propagation techniques.
13. Demonstrate knowledge of greenhouse environment.
14. Understand mowing and thatching of lawns.
15. Determine proper pruning techniques.
16. Describe aeration of soil.

B. Understand the diversity of careers related to the agricultural industry and strategies needed to explore them.

1. Assess personal interests, values, abilities, and work experience.
2. Identify personal and skill characteristics related to specific occupational job families or careers.
3. Identify career-related postsecondary choices and requirements.
4. Evaluate current and future employment opportunities.
5. Analyze needs of business and industry based on labor and economic trends.

Agricultural Science Technology Education

CONTENT AREA – Plant Science Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Understand the use and application of information-based technologies such as computers, communication tools and specialized software necessary for career success in agriculture.

1. Apply computers to job tasks.
2. Use of specialized software.
3. Knowledge of PC operation.
4. Use e-mail software.
5. Use web browser.
6. Use proper telephone skills.
7. Understand copyright laws.
8. Understand confidentiality.

D. Understand the concepts, strategies and tools necessary for employment acquisition, retention and advancement.

1. Identify sources of employment opportunities and advancement.
2. List desirable employee traits.
3. Research wage information.
4. Identify types of benefits offered.
5. Recognize decision-making skills.
6. Write or update resume.
7. Write letter of application.
8. Complete job application.
9. Interview for job.
10. Evaluate a job offer/job description.
11. Explain the nature of interpersonal relations in the job.

Agricultural Science Technology Education

CONTENT AREA – Plant Science Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

E. Understand the concepts, processes, consequences of using and applying pesticides, chemicals and handling other contaminants and equipment in agricultural settings.

1. Interpret pesticide labels, manuals and Material Safety Data Sheets.
2. Measure, mix chemicals and pesticides, and understand safety applications.
3. Use safety precautions while handling equipment, materials, disposal and cleaning.
4. Understand Integrated Pest Management.
5. Use of proper safety equipment.
6. Understand environmental protection laws and policy.

F. Understand the concepts, processes and tools needed in reading and interpreting topographical maps, charts, graphs and blueprints.

1. Use of scales in drawings, prints and maps.
2. Identify and interpret blueprints, lines and symbols.
3. Knowledge of pictorial, schematic drawings and topographical maps.
4. Identify tools/materials, equipment for use with topographical maps, charts, graphs and blueprints.
5. Convert scale.

G. Understand the sequence of the channels of distribution (marketing) in it's role to agriculture.

1. Understand supply and demand.
2. Define the concept of market price.
3. Define the concept of profit.
4. Define the concept of competition.
5. Explain the value of advertising/promotion.
6. Arrange display to produce harmony, balance, proportion.
7. List the forms of advertising media and the advantages and disadvantages of each.
8. Explain the nature of positive customer/client relations.
9. Handle customer inquiries/complaints.
10. Understand financial statements.

Agricultural Science Technology Education

CONTENT AREA – Plant Science Technology

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

H. Understand the concepts, strategies and tools needed which contribute to personal growth, community leadership, democratic principles and social responsibility through the participation in the FFA.

1. Practice correct conduct at meeting.
2. Use parliamentary procedure.
3. Use of proper speaking and communication skills.
4. Describe the qualities and abilities of an effective leader.
5. Identify and apply the various roles and responsibilities of a leader with an organization.
6. Introducing and addressing people properly.
7. Use proper grammar and appropriate vocabulary.

I. Understand and use mathematical calculations as they apply to agricultural situations.

1. Perform calculations involving fractions, decimals, and percents.
2. Knowledge of calculations of geometric shapes (area, perimeter, circumference, volume, etc.).
3. Calculate amount of purchase, tax, discounts and special charges for purchases.
4. Take and record measurements.

Agricultural Science Technology Education

CONTENT AREA – Natural Resources and Environmental Management

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand the concepts and skills necessary related to natural resources and environmental management.

1. Select correct fire extinguisher for types of fires.
2. Understand personal safety requirements.
3. Understand safe use and operation of a chainsaw.
4. Identify tree types using leaves, bark and buds.
5. Distinguish between different types of forests.
6. Specify various methods of insect control.
7. Identify seasonal food sources for wildlife.
8. Identify different types of wildlife commonly found in forest habitats.
9. Define surveying terminology.
10. Identify environmental factors important to a forest community.
11. Select and use correct measuring tools for timber cruising.
12. Understand soil, air and water management.
13. Understand ecological successions.
14. Understand waste management techniques and practices.

B. Understand the diversity of careers related to the agricultural industry and strategies needed to explore them.

1. Assess personal interests, values, abilities, and work experience
2. Identify personal and skill characteristics related to specific occupational job families or careers.
3. Identify career-related postsecondary choices and requirements.
4. Evaluate current and future employment opportunities.
5. Analyze needs of business and industry based on labor and economic trends.

Agricultural Science Technology Education

CONTENT AREA – Natural Resources and Environmental Management

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Understand the use and application of information-based technologies such as computers, communication tools and specialized software necessary for career success in agriculture.

1. Apply computers to job tasks.
2. Use of specialized software.
3. Knowledge of PC operation.
4. Use E-Mail software.
5. Use web browser.
6. Use proper telephone skills.
7. Understand copyright laws.
8. Understand confidentiality.

D. Understand the concepts, strategies and tools necessary for employment acquisition, retention and advancement.

1. Identify sources of employment opportunities and advancement.
2. List desirable employee traits.
3. Research wage information.
4. Identify types of benefits offered.
5. Recognize decision-making skills.
6. Write or update resume.
7. Write letter of application.
8. Complete job application.
9. Interview for job.
10. Evaluate a job offer/job description.
11. Explain the nature of interpersonal relations in the job.

Agricultural Science Technology Education

CONTENT AREA – Natural Resources and Environmental Management

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

E. Understand the concepts, processes, consequences of using and applying pesticides, chemicals and handling other contaminants and equipment in agricultural settings.

1. Interpret pesticide labels, manuals and Material Safety Data Sheets.
2. Measure, mix chemicals and pesticides, and understand safety applications.
3. Knowledge of safety concerns.
4. Use safety precautions while handling equipment, materials, disposal and cleaning.
5. Understand Integrated Pest Management.
6. Use of proper safety equipment.
7. Understand environmental protection laws and policy.

F. Understand the concepts, processes and tools needed in reading and interpreting topographical maps, charts, graphs and blueprints.

1. Use of scales in drawings, prints and maps.
2. Identify and interpret blueprints, lines and symbols.
3. Knowledge of pictorial, schematic drawings and topographical maps.
4. Identify tools/materials, equipment for use with topographical maps, charts, graphs and blueprints.
5. Convert scale.

G. Understand the sequence of the channels of distribution (marketing) in it's role to agriculture.

1. Understand supply and demand.
2. Define the concept of market price.
3. Define the concept of profit.
4. Define the concept of competition.
5. Explain the value of advertising/promotion.
6. Arrange display to produce harmony, balance, and proportion.
7. List the forms of advertising media and the advantages and disadvantages of each.
8. Explain the nature of positive customer/client relations.
9. Handle customer inquiries/complaints.
10. Understand financial statements.

Agricultural Science Technology Education

CONTENT AREA – Natural Resources and Environmental Management

Content Measure – Thirty-five percent of twelfth grade students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

H. Understand the concepts, strategies and tools needed which contribute to personal growth, community leadership, democratic principles and social responsibility through the participation in the FFA.

1. Practice correct conduct at meeting.
2. Use parliamentary procedure.
3. Use of proper speaking and communication skills.
4. Describe the qualities and abilities of an effective leader.
5. Identify and apply the various roles and responsibilities of a leader with an organization.
6. Introducing and addressing people properly.
7. Use proper grammar and appropriate vocabulary.

I. Understand and use mathematical calculations as they apply to agricultural situations.

1. Perform calculations involving fractions, decimals, and percents.
2. Knowledge of calculations of geometric shapes (area, perimeter, circumference, volume, etc.).
3. Calculate amount of purchase, tax, discounts and special charges for purchases.
4. Take and record measurements.

Business and Finance Technology

Business and Finance Technology

CONTENT AREA – Career Development

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Career Development: Identify concepts related to career exploration.

1. Assess personal strengths and weaknesses as they relate to career exploration development leading to lifelong learning.
2. Utilize career resources to develop an information base that includes global occupational opportunities.
3. Apply the concepts of work ethics, workplace relationships, workplace diversity, and workplace communication skills to career development.
4. Apply knowledge gained from individual assessment to a comprehensive set of goals and an individual school-to-career plan.

B. Integrate and reinforce attitudes and skills: Apply the recommended Department of Labor skills from Secretary's Commission on Achieving Necessary Skills (SCANS) and Connecticut's Common Core of Learning.

1. Critical Thinking
2. Problem Solving
3. Team building (to enhance cooperative learning and interpersonal skills)
4. Ethics
5. Quality of Work
6. Communications
7. Decision Making
8. Technology

Business and Finance Technology

CONTENT AREA – Business Administration, Finance and Management

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Business Law: Interpret laws affecting business and individuals as such laws relate to business transactions.

1. Analyze the relationship between ethics and the law and describe the sources of the law and the structure of the court system.
2. Analyze the relationships between contract law, law of sales and consumer law.
3. Analyze the role and importance of agency law and employment law as they relate to the conduct of business in the national and international marketplaces.
4. Describe the major types of business organizations operating within the socio-economic area of the national and international marketplace.
5. Explain the legal rules that apply to personal property and real property.
6. Analyze the functions of commercial paper, insurance, secured transactions and bankruptcy.
7. Explain how the advances in computer technology impact upon such areas as property law, contract law, criminal law, and international law.
8. Explain the legal rules that apply to environmental law and energy regulation.

B. Economics and Personal Finance: Apply economic decisions related to personal financial affairs, the successful operation of organizations, and the economic activities of the country.

1. Identify opportunity costs and trade-offs involved in making choices regarding the use of scarce economic resources.
2. Use a rational decision-making process as it applies to the roles of citizens, workers, and consumers.
3. Explain how specialization; division of labor, savings, investment in capital goods and human resources; and technological change affect productivity.
4. Identify the basic features of different economic systems and discuss the major features of the U.S. economy.
5. Explain the role of core economic institutions and incentives in the U.S. economy.
6. Explain the importance of economic relationships among nations.
7. Identify the role of U.S. government in an economic system, especially the necessary and desirable role of government in the U.S. economy.

Business and Finance Technology

CONTENT AREA – Business Administration, Finance and Management

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Entrepreneurship Education: Recognize a business opportunity, start a business based on the recognized opportunity, and operate and maintain that business.

1. Identify unique characteristics of an entrepreneur.
2. Develop a business plan for an entrepreneurial venture.
3. Apply economic concepts when making decisions for an entrepreneurial venture.
4. Identify and use the necessary financial competencies needed by an entrepreneur.
5. Identify and use the necessary financial competencies needed by an entrepreneur.
6. Identify, establish, maintain, and analyze appropriate records to make business decisions.
7. Describe how cultural differences, export/import opportunities and current trends in a global marketplace can affect an entrepreneurial venture.
8. Describe how ethics, government, and different forms of business ownership affect the entrepreneurial venture.

D. International Business: Compare and analyze the social, cultural, political, legal, and economic factors that shape and impact international business.

1. Explain the role of international business and analyze its impact on careers at the local, state, national, and international level.
2. Apply communication strategies necessary and appropriate for effective and profitable international business relations.
3. Describe the environmental factors that define what is considered ethical business behavior.
4. Explain the role, importance, and concepts of international finance and risk management.
5. Address special challenges in operations and management of human resources in international business.
6. Relate balance of trade concepts to the import/export process.
7. Identify forms of business ownership and entrepreneurial opportunities available in international business.

Business and Finance Technology

CONTENT AREA – Business Administration, Finance and Management

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

E. Business Management: Analyze, synthesize, and evaluate data from the other functional areas of business such as marketing, finance, accounting and production along with development of appropriate personal leadership skills.

1. Illustrate how the functions of management are implemented and explain why they are important.
2. Compare and contrast the basic tenets of management theories and explain why they are important.
3. Analyze financial data influenced by internal and external factors in order to make long-term and short-term management decisions.
4. Describe the activities of human resources managers and their importance to the successful operation of the organization.
5. Identify various organizational structures and discuss the advantages and disadvantages of each.
6. Apply the code of ethics to various issues confronted by businesses.
7. Identify, describe, and analyze the impact and relationship of government regulations and community involvement to business management decisions.
8. Describe the role of organized labor and its influences on government and business.
9. Apply generally accepted operations management principles and procedures to the design of an operations plan.

Business and Finance Technology

CONTENT AREA – Accounting

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Accounting: Apply accounting principles to entrepreneurial ventures of small business ownership.

1. Complete the various steps of the accounting cycle and explain the purpose of each step.
2. Prepare, interpret, and analyze financial statements using manual and computerized systems.
3. Apply appropriate accounting principles to various forms of ownership, payroll, income taxation, and managerial systems.
4. Evaluate the performance of an organization and apply differential analysis and present value concepts to make decisions.

B. Computation: Apply essential computational skills needed by consumers, employees, employers, investors, and entrepreneurs.

1. Apply basic mathematical operations to solve business-related problems.
2. Solve problems containing whole numbers, decimals, fractions, percents, ratios, and proportions.
3. Use algebraic operations to solve problems.
4. Use common international standards of measurement in solving problems.
5. Analyze and interpret data using common statistical procedures.

Business and Finance Technology

CONTENT AREA – Communications/Technology

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Communications: Apply principles of communications that are prerequisites for success.

1. Communicate in a clear, courteous, concise, and correct manner on personal and professional levels.
2. Use technology to enhance the effectiveness of communications.
3. Integrate all forms of communication in the successful pursuit of a career.
4. Incorporate appropriate personal and professional responsibility techniques and customer service strategies to communicate effectively with various constituencies.

B. Information Systems: Analyze, synthesize and evaluate situations and apply technology to complete tasks efficiently and effectively.

1. Use touch-keyboarding skills to enter and manipulate text and data.
2. Select and use work processing, desktop publishing, database, spreadsheet, presentation graphics, multimedia imaging software, and subject-specific software.
3. Assess the impact of information systems on society.
4. Identify, use and solve problems within various types of environments and utilities.
5. Identify employability skills in positions and career paths within information system.

Cooperative Work Education

Cooperative Work Education

CONTENT AREA – Cooperative Work Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Career Awareness: Understand the concepts and methods that affect career self-evaluation, identifying career choices and postsecondary opportunities.

Career Self-Assessment

1. Assess personal interests, values, abilities and work experience.
2. Identify personal and skill characteristics related to specific occupational job families or careers.

Career Exploration

3. Explore identified career interests through work-based experiences.
4. Research and evaluate all characteristics of an occupation(s).

Career Education/Training/Work Experience

5. Identify career-related postsecondary choices and requirements.

Labor Market Trends and Employment Opportunities

6. Evaluate current and future employment opportunities.
7. Analyze needs of business and industry based on labor and economic trends.
8. Identify nontraditional occupations.

Cooperative Work Education

CONTENT AREA – Cooperative Work Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Employment Acquisition: Understand the concepts and strategies necessary for employment acquisition.

The Job Market

1. Describe job-seeking skills.
2. Perform a job search.

Interviewing

3. Demonstrate knowledge of proper dress.
4. Demonstrate proper body language.
5. Participate in an interview.
6. Complete and employment application.
7. Demonstrate resume and cover letter writing.
8. Demonstrate job interview follow-up procedures.
9. Evaluate employment decisions.

Employment Process

10. Demonstrate knowledge of employee forms (i.e., working papers, W-4).

Cooperative Work Education

CONTENT AREA – Cooperative Work Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Employment Retention: Understand the communication methods and concepts necessary for employment success.

1. Demonstrate decision-making skills.
2. Demonstrate organizational skills.
3. Interpret chain of command.
4. Demonstrate problem solving.
5. Follow line of authority.
6. Contrast leadership styles.
7. Demonstrate teamwork skills.
8. Display a good self-concept.
9. Speak/write clearly and concisely.
10. Follow directions and listen effectively.
11. Exchange ideas.
12. Demonstrate proper telephone skills.

B. Employment Retention: Understand the human relations methods and concepts necessary for employment success.

1. Show awareness of professional behavior.
2. Demonstrate understanding of dedication and quality.
3. Demonstrate punctuality/dependability/flexibility/adaptability.
4. Demonstrate awareness of cultural diversity.
5. Demonstrate ability to work with fellow employees and a diverse work force.
6. Take initiative and responsibility.
7. Work well under stress.
8. Persist until job is done.
9. Seek new challenges.
10. Respond well to criticism.
11. Maintain personal hygiene.
12. Demonstrate positive attitudes/ethics.

C. Employment Retention: Understand the technology methods and concepts necessary for employment success.

1. Identify use of technology as it relates to job performance.
2. Apply computers to job tasks.
3. Demonstrate use of specialized software.
4. Demonstrate knowledge of PC operation.

Cooperative Work Education

CONTENT AREA – Cooperative Work Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Legal Awareness: Understand the concepts and legal ramifications of labor laws impacting employment.

1. Explain equal employment opportunity.
2. Identify responsibility of employer/employee in adherence to labor laws.

B. Legal Awareness: Understand the concepts and legal ramifications of health and safety laws impacting employment.

1. Explain the role of OSHA.
2. Identify employer responsibility in providing a safe work environment.
3. Explain employee's role in following company safety procedures.

Cooperative Work Education

CONTENT AREA – Cooperative Work Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Global Economy: Understand entrepreneurial skills as related to the global economy.

1. Describe economic systems.
2. Define entrepreneurship and its important to the economy.
3. Identify and compare the various types of business ownership.
4. Describe advantages and disadvantages of business ownership.

Family and Consumer Sciences Education

Family and Consumer Sciences Education

CONTENT AREA – Early Childhood Education and Services

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Analyze principles of human growth and development by examining physical, emotional, social and intellectual development.

1. Explain the interrelationship of social, emotional, physical and intellectual development.
2. Discuss the relationship of a nurturing environment to emotional and social development.
3. Explain the stages of development according to Piaget and give examples of application in the child-care setting.
4. Identify motor development sequence.
5. Give examples of gross and fine motor development for each developmental age.
6. Select age-appropriate indoor and outdoor play equipment for physical development.
7. Describe the development of verbal and nonverbal communication.
8. Describe the sequence of language development including writing.
9. Name the stages of social play.

B. Analyze developmentally appropriate practices to plan for early childhood education, and services

1. Describe conditions that encourage children to learn and promote creative thinking (senses, concrete experience, and play).
2. Plan activities that encourage expressive and receptive language development (such as open ended questions).
3. Explain the importance of visual display of children's work for the appropriate age level.
4. State guidelines for choosing appropriate literature at appropriate ages.

C. Demonstrate professional practices and standards related to working with children.

1. Recognize laws and regulations that pertain to licensing.
2. List appropriate materials and equipment to encourage positive childcare management.
3. Prepare effective oral and/or written communication for parents.
4. Explain modification of the environment, routine, or activities to meet a child's special needs.
5. Describe the importance of confidentiality.
6. Explain the procedure for reporting child abuse and neglect.

Family and Consumer Sciences Education

CONTENT AREA – Early Childhood Education and Services

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

D. Demonstrate a safe and healthy learning environment for children

1. Identify basic responsibilities of caregivers for protecting children's health and safety.
2. Explain the importance of sanitation practices.
3. Demonstrate basic first aid procedures.
4. Understand importance of the maintenance of accident, health, and medication records.
5. Explain the importance of immunizations.
6. Explain safe maintenance of toys, equipment, and materials.
7. Develop appropriate menus for meals and snacks.

E. Demonstrate techniques for positive collaborative relationships with children.

1. Demonstrate positive adult/child communication.
2. Identify positive guidance techniques.
3. Analyze effects of environment on guidance behavior.
4. Describe how limits and rules should be set and managed.
5. Recognize the caregiver's level of involvement in child's play.

F. Demonstrate integration of curriculum and instruction to meet children's developmental needs and interests.

1. Develop a balanced schedule or routine of activities (small/large group; child/teacher directed; active/quiet, etc.)
2. Develop an activity that encourages independence in a child.
3. Explain the importance of a multicultural/anti-bias awareness curriculum.
4. Describe a variety of transition time activities.
5. Name activities that provide for the release of emotional energy.
6. Demonstrate effective storytelling as a method of instruction.
7. List learning opportunities for children to express their creative feelings.
8. List activities for guiding art and sensory experiences.

Family and Consumer Sciences Education

CONTENT AREA – Early Childhood Education and Services

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

G. Analyze roles and responsibilities of parenting.

1. Identify basic responsibilities of parents for protecting children's health and safety.
2. Discuss how parental behavior affects child behavior.
3. Identify methods of parental involvement.

H. Analyze physical and emotional factors related to beginning the parenting process.

1. Identify basic financial responsibilities of providing for a child.
2. Identify physical demands of parenting a young child.
3. Identify basic emotional demands of parenting a young child.

I. Analyze the impact of family as a system on individuals and society.

1. Explain the relationship of effective parenting on moral and social development of children.

J. Analyze career paths within early childhood education and services

1. List components of a quality child-care setting (affectionate, nurturing adults; planned curriculum, parent involvement, etc.)
2. Identify the personal characteristics of a professional caregiver or early childhood teacher.
3. Identify legal and ethical responsibilities related to supervising and caring for young children within day care and early childhood education programs.

Family and Consumer Sciences Education

CONTENT AREA – Nutrition, Food Production and Services

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Demonstrate food preparation for all menu categories to produce a variety of food products.

1. Demonstrate understanding of preparation of breakfast food items including eggs.
2. Explain inspection/grading, handling and quality factors of meat, poultry and seafood.
3. Explain classifications/market forms and basic cuts of poultry, meats and seafood.
4. Indicate doneness and cooking methods for preparing poultry, meat and seafood.
5. Demonstrate an understanding of the principles of presentation for plated and buffet foods.
6. Identify salad dressing types and ingredients and preparation methods.
7. Apply principles of sandwich preparation.
8. Read and interpret recipes, including conversion methods and costing.
9. Comprehend and apply basic food preparation terminology.
10. Identify types of, and describe uses and methods of preparation for, fruits and vegetables, grains, dairy products, soups, eggs, and casseroles.
11. Apply principles of baking.

B. Evaluate factors that affect food safety, from production through consumption.

1. Identify and apply principles of sanitation.
2. Demonstrate correct methods for cleaning and sanitizing.
3. Identify signs of food spoilage.
4. Describe/demonstrate/use food preparation safety rules.
5. Describe/demonstrate fire safety rules and use of equipment.
6. Explain causes of accidents and injuries.
7. Describe emergency treatments for kitchen/dining room injuries.
8. Evaluate methods of waste disposal and recycling.
9. Use sanitary guidelines related to time, temperature, date markings, cross contamination hand washing and personal hygiene as criteria for safe food preparation.

Family and Consumer Sciences Education

CONTENT AREA – Nutrition, Food Production and Services

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Demonstrate planning menu items based on standardized recipes to meet customer or specialized dietary needs.

1. Evaluate diets in terms of RDA
2. Explain the relationship of nutritional factors to food choices.
3. Describe characteristics/functions/food sources of nutrients.
4. Use herbs and spices to enhance recipes.
5. Describe the food guide pyramid in relationship to menu planning.
6. Discuss and provide for varied nutritional needs.

D. Analyze career paths within the nutrition, food production and food services industries.

1. Determine the role and functions of individuals engaged in food science, dietetics, nutrition and food service.
2. Develop awareness of career opportunities related to food services and production.
3. Show awareness of professional behavior.
4. Interpret drug-free workplace guidelines.
5. Describe job seeking/keeping skills.
6. Develop awareness of various types of eating disorders and obesity and their effect on our society as well as related careers.

E. Demonstrate selecting, using and maintaining food production equipment.

1. Describe/demonstrate safe use of food preparation tools and equipment.
2. Maintain safe surroundings.
3. List appropriate methods of insect control and rodent extermination.

F. Demonstrate implementation of food service management functions

1. Demonstrate knowledge of different types and styles of serving foods.

Family and Consumer Sciences Education

CONTENT AREA – Nutrition, Food Production and Services

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

G. Demonstrate the concept of internal and external customer service.

1. Demonstrate knowledge of basic principles of customer service.
2. Apply appropriate table settings for different uses and occasions.
3. Demonstrate understanding of types of menus.
4. Contrast types of service.

H. Evaluate the impact of science and technology on food composition, safety and other issues.

1. Describe the effect of specific ingredients on the outcome and nutritional value of a product.
2. Critique the selection of foods to promote a healthy lifestyle.
3. Demonstrate an understanding of the effects of irradiation and additives on the foods that we consume.

Marketing Education

Marketing Education

CONTENT AREA – Marketing Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Business and Management: Understand fundamental business and marketing concepts that affect business decision making.

1. Describe types of business activities.
2. Determine the relationship between business and government.
3. Describe the environments in which businesses operate.
4. Describe marketing functions and related activities.
5. Explain the nature of marketing strategies.
6. Explain considerations in business planning.
7. Organize the work of others.
8. Implement procedures for staffing a department/organization.
9. Demonstrate procedures for monitoring and evaluating employee performance.
10. Apply operational processes to maintain and support daily business activities.
11. Describe the roll of small business in the United States.
12. Describe ways to finance a business venture.
13. Describe legal considerations for starting a business.
14. Recommend a form of business ownership.
15. Formulate a business plan.

B. Economics: Understand the economic principles and concepts fundamental to marketing.

1. Distinguish between economic goods and economic services.
2. Explain the concepts of economic resources.
3. Interpret the impact of supply and demand on price.
4. Explain types of economic systems.
5. Explain the concept of private enterprise.
6. Identify factors affecting a business' profit.
7. Determine the opportunity cost associated with economic decision making.

Marketing Education

CONTENT AREA – Marketing Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Career and Professional Development: Understand concepts and strategies needed for personal and professional growth in marketing and business

1. Use traditional and nontraditional job-search strategies, including on-line searches.
2. Demonstrate job-seeking skills.
3. Utilize resources than can contribute to professional development.
4. Utilize skills to enhance career progression.
5. Identify desirable personality important to business.
6. Make decisions.
7. Demonstrate ethical behavior in marketing.
8. Demonstrate interpersonal skills in a group.
9. Apply interpersonal skills to develop good customer relationships.
10. Utilize interpersonal skills to resolve conflict with others.
11. Apply interpersonal skills to develop good customer relationships.
12. Communicate clearly and concisely in writing.
13. Demonstrate effective verbal and nonverbal communication in the workplace.

D. Distribution: Understand the concepts and processes needed to move, store, locate, and/or transfer ownership of goods and services

1. Explain the nature and scope of distribution.
2. Apply warehousing/stock-handling procedures.
3. Demonstrate procedures to facilitate transportation of goods.
4. Select channels and channel members.
5. Demonstrate inventory control procedures.

E. Financing: Understand the financial concepts used in making decisions

1. Describe the role of financing in marketing and business endeavors.

F. Marketing/Information Management: Understand the concepts and systems needed to access, synthesize, evaluate, and disseminate information for use in making business decisions.

1. Explain the nature of the marketing information using technology.
2. Demonstrate procedure for gathering marketing information using technology.
3. Explain the nature of marketing research.
4. Analyze the environments that affect business operations.
5. Explain techniques for processing marketing information using technology.

Marketing Education

CONTENT AREA – Marketing Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

G. Pricing: Understand concepts and strategies used in determining and adjusting prices to maximize return and ensure customer satisfaction.

1. Describe the nature of the pricing function.
2. Determine pricing objectives, policies, and strategies.
3. Describe considerations in setting prices.
4. Explain non-price considerations that affect prices.
5. Use technology to assist in price setting.
6. Determine selling prices.
7. Adjust selling prices.

H. Product/Service Planning: Understand the concepts and processes needed to develop, maintain, and improve a product or service mix in response to market opportunities.

1. Explain the nature of the product/service planning function.
2. Describe considerations in developing and maintaining a product mix.
3. Plan a product service/mix.
4. Describe factors used by marketers to position products/businesses.
5. Explain the role of customer service in positioning.
6. Describe the marketing planning process.

I. Promotion: Understand the concepts and strategies needed to communicate information about products, services and/or ideas to influence behavior.

1. Explain the communication process used in promotion.
2. Describe the nature and scope of the promotion function.
3. Identify the elements of the promotion.
4. Gather, interpret, and use information to promote products.
5. Write promotional messages that appeal to targeted markets.
6. Select promotional media to communicate with customers.
7. Use publicity.
8. Apply sales promotion techniques.
9. Select products to promote.
10. Use past advertisements to aid in promotional planning.
11. Coordinate promotional activities.
12. Develop a promotional plan.
13. Prepare a promotional budget.
14. Determine promotional policies.

Marketing Education

CONTENT AREA – Marketing Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

J. Purchasing: Understand strategies for obtaining goods and services for use in operating a business and/or for resale.

1. Explain the nature of the buying process.
2. Describe buying/purchasing policies.
3. Determine purchase needs.
4. Identify sources/vendors.
5. Analyze relationship with vendors.
6. Calculate final cost of materials/products/services to company.

K. Risk Management: Understand the concepts needed to optimize gain and minimize loss due to risk.

1. Explain the nature of the risk management function.
2. Identify controllable and uncontrollable risk factors.
3. Apply security measures.

L. Selling: Understand the concepts needed to respond to client needs and wants through planned, personalized communication that influences purchase decisions and ensures satisfaction.

1. Explain the nature and scope of the selling function.
2. Gather, interpret, and use information in selling.
3. Develop an understanding of customers/clients.
4. Use selling process and techniques to aid customers/clients in making buying decisions.
5. Process customer's/client's payment.
6. Communicate sales messages in writing.
7. Explain the role of customer service in customer/client relationships.
8. Utilize strategies to build and maintain a clientele.
9. Implement activities that support sales efforts.
10. Use ethics in selling.

Medical Careers Education

Medical Careers Education

CONTENT AREA – Medical Careers Education

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Foundations of health care

1. Demonstrate knowledge of health care systems.
2. Identify legal standards of care/behavior.
3. Maintain client (patient) rights.
4. Recognize cultural diversity.
5. Recognize and define professional behaviors.
6. Demonstrate critical-thinking skills.

B. Communications

1. Recognize and use medical terminology.
2. Use effective communication skills.
3. Use appropriate abbreviations.
4. Convert abbreviation into terms.
5. Use a medical dictionary.
6. Match titles with medical specialty areas.

C. Safety

1. Employ universal precautions.
2. Demonstrate safe/appropriate medical asepsis, especially hand-washing techniques.
3. Demonstrate appropriate use and removal of gloves.
4. Demonstrate awareness of personal safety.
5. Identify potential safety hazards.
6. Report safety hazards.
7. Maintain safety in all clinical areas and activities.
8. Demonstrate proper body mechanics.

D. Employability Skills

1. Recognize available allied health career choices.
2. Recognize the importance of employee reliability/dependability and leadership.
3. Maintain positive relationships with others as an individual and a group member.
4. Demonstrate interviewing skills.
5. Demonstrate personal cleanliness and good grooming.
6. Discern employee rights and responsibilities.
7. Demonstrate decision-making skills.
8. Demonstrate basic math and computer skills.

Medical Careers Education

Content Area – Certified Nursing Assistant

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

Performance Standards and Competencies

The Certified Nurse Assistant (CNA) Examination, a state accredited examination that is given in the Spring of each year, meets the Perkins assessment requirements. CNA teachers must send all first round test results to the Bureau of Career and Adult Education before June 10th of each year.

Technology Education

Technology Education

CONTENT AREA – Communication Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand and be able to effectively apply physical, graphic and electronic communication techniques in processing, transmitting, receiving and organizing information.

1. Describe electronic publishing and give examples of this technology.
2. Demonstrate the proper use of the terminology associated with electronic publishing, graphic arts and computers.
3. Identify and describe component functions of a microcomputer electronic publishing system.
4. Apply accepted design principles of text and graphics to the layout of printed and/or electronically published materials.
5. Operate a scanner and digitize a video image using appropriate software.
6. Send and access information through a network.
7. Design and produce a video and multimedia production.
8. Export and import images in a variety of file forms.
9. Operate a computer-aided drafting (CAD) system.

B. Understand the link between technology and the economy. Recognize resources and technology.

1. Identify current global, social and economic trends, and identify to computer-controlled production.
2. Identify how the development and production of products and services on the transformation of available resources.
3. Describe the evolution of technological enterprise and its economy, culture, society and environment.
4. Describe the characteristics of single ownership, corporations and partnerships.
5. Compare and contrast ways of financing an enterprise.
6. Design a simulated enterprise and participate in a variety of roles structure.
7. Develop a floor diagram and flowchart.
8. Define and use the quality control measures of pre-inventory inspection, statistical process control and total quality management.

Technology Education

CONTENT AREA – Communication Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Understand the impact that technology has on the social, cultural and environmental aspects of life.

1. Forecast trends in communications technologies and project their potential impacts.
2. Employ the input-process-output feedback system model to their evaluation of technological impacts.
3. Evaluate technologies based on their positive and negative outcomes.
4. Discuss societal and industrial responsibilities for using proper hazardous waste disposal techniques.

D. Become aware of the world of work and its function in social diversity, expectations, trends and requirements; and identify and develop leadership attributes and apply them in team situations.

1. Identify career opportunities in the area of communications.
2. Demonstrate an ability to take responsibility for their actions.
3. Explain the need to be a lifelong learner.
4. Exhibit appropriate behaviors in both school and work situations.
5. Define and demonstrate a personal work ethic.
6. Identify future labor market trends.
7. Apply organizational skills to classroom and laboratory activities.
8. Develop a personal time management plan.
9. Assume roles within a team environment commensurate with their skills and expertise.
10. Present information in a clear, concise and appropriate manner.

Technology Education

CONTENT AREA – Communication Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

E. Recognize that technology is the result of a creative act and be able to apply disciplined problem-solving strategies to enhance invention and innovation; apply the engineering design process to achieve desired outcomes across all technology content areas.

1. Use research techniques to support design development.
2. Apply the descriptive statistics of average, percentage, correlation and graphing to design outcomes.
3. Develop several alternative design solutions to the same problem.
4. Use a communication technology to visualize a design idea.
5. Know the laws related to copyrights, trademarks and patents.
6. Prepare and document a design brief.
7. Select appropriate technical processes and fabricate a prototype.
8. Differentiate between the problem-solving and engineering design processes.

F. Know the origins, properties and processing techniques associated with the material building blocks of technology.

1. Describe the physical structures and properties of materials used in technological systems.
2. Research, plan and participate in recycling activities.

Technology Education

CONTENT AREA – Construction Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand and be able to demonstrate the methods involved in turning raw materials into usable products.

1. Describe the relationship between the universal systems model and construction technology.
2. Differentiate between manufacturing and construction systems.
3. Trace the historical development of the construction industry.
4. Differentiate between residential and commercial construction systems.
5. Describe the significance of architectural drawings, specifications and contracts in the construction industry.
6. Describe and apply the process of site selection and preparation.
7. Demonstrate an ability to read and interpret architectural renderings.
8. Demonstrate the safe and accurate use of layout, forming, separating, combining, treating, and finishing tools and procedures in building a shelter or structure.
9. Identify, describe and apply the structural elements used in commercial floor, wall and roofing systems.
10. Identify and describe the nonstructural characteristics of plumbing, electrical and environmental systems used in construction.
11. Complete a cost estimation, create a critical path network, and construct a small full-scale shelter or structure.
12. Discuss advanced construction systems and the role they play in future societies.

Technology Education

CONTENT AREA – Construction Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

B. Understand the link between technology and the economy, recognize that link as the force behind societal emergence and evolution, demonstrate the techniques of enterprise and how they relate to product and service production, economics, human and material resources and technology.

1. Identify current global, social and economic trends, and identify their relationship to computer-controlled production.
2. Identify how the development and production of products and services are dependent on the transformation of available resources.
3. Describe the evolution of technological enterprise and its influence on the economy, culture, society and environment.
4. Describe the characteristics of single ownership, corporations, companies and partnerships.
5. Compare and contrast ways of financing an enterprise.
6. Design a simulated enterprise and participate in a variety of roles within the organizational structure
7. Develop a floor diagram and flowchart.
8. Define and use the quality control measures of pre-inventory inspection, statistical process control and total quality management.

C. Understand the impact that technology has on the social, cultural and environmental aspects of life

1. Forecast trends in communications, production, transportation and the bio-related technologies and project their potential impacts.
2. Employ the input-process-output feedback system model to their evaluation of technological impacts.
3. Evaluate technologies based on their positive and negative outcomes.
4. Discuss societal and industrial responsibilities for using proper hazardous waste disposal techniques.

Technology Education

CONTENT AREA – Construction Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

D. Become aware of the world of work and its function in social diversity, expectations, trends and requirements; and identify and develop leadership attributes and apply them in team situations.

1. Identify career opportunities in the area of construction.
2. Demonstrate an ability to take responsibility for their actions.
3. Explain the need to be a lifelong learner.
4. Exhibit appropriate behaviors in both school and work situations.
5. Define and demonstrate a personal work ethic.
6. Identify future labor market trends.
7. Apply organizational skills to classroom and laboratory activities.
8. Develop a personal time management plan.
9. Assume roles within a team environment commensurate with their skills and expertise.
10. Present information in a clear, concise and appropriate manner.

E. Recognize that technology is the result of a creative act and be able to apply disciplined problem-solving strategies to enhance invention and innovation: apply the engineering design process to achieve desired outcomes across all technology content areas.

1. Use research techniques to support design development.
2. Apply the descriptive statistics of average, percentage, correlation and graphing to design outcomes.
3. Develop several alternative design solutions to the same problem.
4. Use a communication technology to visualize a design idea.
5. Know the laws related to copyrights, trademarks and patents.
6. Present a design idea using multimedia technology.
7. Prepare and document a design brief.
8. Select appropriate technical processes and fabricate a prototype.
9. Design and conduct a technical experiment.
10. Differentiate between the problem-solving and engineering design processes.

Technology Education

CONTENT AREA – Construction Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

F. Know the origins, properties and processing techniques associated with the material building blocks of technology

1. List the techniques used to extract raw materials from the environment.
2. Describe the physical structures and properties of materials used in technological systems.
3. Classify raw materials according to their physical and mechanical properties
4. Experiment with the alteration of material characteristics.
5. Differentiate between natural and artificial materials.
6. Research, plan and participate in recycling activities.
7. Identify secondary materials and processes through product analysis.
8. Produce products with raw and recycled materials by separating, forming, combining, conditioning and finishing.

Technology Education

CONTENT AREA – Manufacturing Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand and be able to demonstrate the methods involved in turning raw materials into usable products.

1. Describe the relationship between the universal systems model and manufacturing technology.
2. Differentiate between manufacturing and construction systems.
3. Trace the historical development of manufacturing.
4. Discuss the advantages of environmentally conscious manufacturing.
5. Demonstrate an ability to safely and accurately use the layout, form, separate, combine, treat and finish tools and processes in manufacturing a product.
6. Distinguish between custom, just-in-time and flexible manufacturing techniques.
7. Generate and operate a computer numerical control (CNC) program.
8. Describe computer-integrated manufacturing (CIM).
9. Describe space industrialization and list several products that are manufactured from secondary materials produced in a micro-gravity environment.

B. Understand the link between technology and the economy, recognize that link as the force behind societal emergence and evolution; demonstrate the techniques of enterprise and how they relate to product and service production, economics, human and material resources and technology.

1. Identify current global, social and economic trends, and identify their relationship to computer-controlled production.
2. Identify how the development and production of products and services are dependent on the transformation of available resources.
3. Describe the evolution of technological enterprise and its influence on the economy, culture, society and environment.
4. Describe the characteristics of single ownership, corporations, companies and partnerships.
5. Compare and contrast ways of financing an enterprise.
6. Design a simulated enterprise and participate in a variety of roles within the organizational structure.
7. Develop a floor diagram and flowchart.
8. Define and use the quality control measures of pre-inventory inspection, statistical process control and total quality management.

Technology Education

CONTENT AREA – Manufacturing Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

C. Understand the impact that technology has on the social, cultural and environmental aspects of life

1. Forecast trends in manufacturing and the technologies and project their potential impacts.
2. Employ the input-process-output feedback system model to their evaluation of technological impacts.
3. Evaluate technologies based on their positive and negative outcomes.
4. Discuss societal and industrial responsibilities for using proper hazardous waste disposal techniques.

D. Become aware of the world of work and its function in social diversity, expectations, trends and requirements; and identify and develop leadership attributes and apply them in team situations.

1. Identify career opportunities in the area of manufacturing.
2. Demonstrate an ability to take responsibility for their actions.
3. Explain the need to be a lifelong learner.
4. Exhibit appropriate behaviors in both school and work situations.
5. Define and demonstrate a personal work ethic.
6. Identify future labor market trends.
7. Apply organizational skills to classroom and laboratory activities.
8. Develop a personal time management plan.
9. Assume roles within a team environment commensurate with their skills and expertise.
10. Present information in a clear, concise and appropriate manner.

Technology Education

CONTENT AREA – Manufacturing Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE MEASURES AND COMPETENCIES

E. Recognize that technology is the result of a creative act and be able to apply disciplined problem-solving strategies to enhance invention and innovation; apply the engineering design process to achieve desired outcomes across all technology content areas.

1. Use research techniques to support design development.
2. Apply the descriptive statistics of average, percentage, correlation and graphing to design outcomes.
3. Develop several alternative design solutions to the same problem.
4. Use a communication technology to visualize a design idea.
5. Know the laws related to copyrights, trademarks and patents.
6. Prepare and document a design brief.
7. Select appropriate technical processes and fabricate a prototype.
8. Differentiate between the problem-solving and engineering design processes.

F. Know the origins, properties and processing techniques associated with the material building blocks of technology.

1. List the techniques used to extract raw materials from the environment.
2. Describe the physical structures and properties of materials used in technological systems.
3. Classify raw materials according to their physical and mechanical properties.
4. Experiment with the alteration of material characteristics.
5. Differentiate between natural and artificial materials.
6. Research, plan and participate in recycling activities.
7. Identify secondary materials and processes through product analysis.
8. Produce products with raw and recycled materials by separating, forming, combining, conditioning and finishing.

Technology Education

CONTENT AREA – Transportation Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE STANDARDS AND COMPETENCIES

A. Understand transportation systems and the environments used to move goods and people, and the subsystems common to each.

1. Identify and describe the historical innovations in the evolution of transportation systems and their impact on our society, economy and environment.
2. Understand the principles of aerodynamics.
3. Design, fabricate, test and evaluate a land, atmospheric, marine and space transportation system.
4. Identify and explore solutions to future global transportation problems.
5. Identify and experiment with traditional and alternative fuels.
6. Describe how pneumatic, hydraulic, mechanical and electrical energy are used in transportation systems.

B. Understand the link between technology and the economy, recognize that link as the force behind societal emergence and evolution; demonstrate the techniques of enterprise and how they relate to product and service production, economics, human and material resources and technology.

1. Identify current global, social and economic trends, and identify their relationship to computer-controlled production.
2. Identify how the development and production of products and services are dependent on the transformation of available resources.
3. Describe the evolution of technological enterprise and its influence on the economy, culture, society and environment.
4. Describe the characteristics of single ownership, corporations, companies and partnerships.
5. Compare and contrast ways of financing an enterprise.
6. Design a simulated enterprise and participate in a variety of roles within the organizational structure.
7. Develop a floor diagram and flowchart.
8. Define and use the quality control measures of pre-inventory inspection, statistical process control and total quality management.

Technology Education

CONTENT AREA – Transportation Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE MEASURES AND COMPETENCIES

C. Understand the impact that technology has on the social, cultural and environmental aspects of life

1. Forecast trends in transportation technologies and project their potential impacts.
2. Employ the input-process-output feedback system model to their evaluation of technological impacts.
3. Evaluate technologies based on their positive and negative outcomes.
4. Discuss societal and industrial responsibilities for using proper hazardous waste disposal techniques.

D. Become aware of the world of work and its function in social diversity, expectations, trends and requirements; and identify and develop leadership attributes and apply them in team situations.

1. Identify career opportunities in the area of transportation.
2. Demonstrate an ability to take responsibility for their actions.
3. Explain the need to be a lifelong learner.
4. Exhibit appropriate behaviors in both school and work situations.
5. Define and demonstrate a personal work ethic.
6. Identify future labor market trends.
7. Apply organizational skills to classroom and laboratory activities.
8. Develop a personal time management plan.
9. Assume roles within a team environment commensurate with their skills and expertise.
10. Present information in a clear, concise and appropriate manner.

Technology Education

CONTENT AREA – Transportation Systems

Content Measure – Thirty-five percent of students assessed will achieve 65 percent proficiency.

PERFORMANCE MEASURES AND COMPETENCIES

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6. Present a design idea using multimedia technology.
7. Prepare and document a design brief.
8. Select appropriate technical processes and fabricate a prototype.
9. Design and conduct a technical experiment.
10. Differentiate between the problem-solving and engineering design processes.

F. Know the origins, properties and processing techniques associated with the material building blocks of technology.

1. Describe the physical structures and properties of materials used in technological systems.
2. Experiment with the alteration of material characteristics.
3. Research, plan and participate in recycling activities.

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